

THE EARTHQUAKE ACTIVITY IN CENTRAL BELGIUM SINCE JULY 2008

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Abstract

Since 12 July 2008, a seismic sequence started in the region of Ottignies – Court-Saint-Etienne some 20 km to the southeast of Brussels. The most important earthquake occurred on July 13 and had a magnitude $M_L=3.2$. Up to March 2009, 120 earthquakes have been recorded with magnitude as low as 0.

Surprisingly, even earthquake of magnitude smaller than $M_L=1.0$, not necessarily recorded by the Belgian monitoring permanent network, have been observed despite the fact that their focal depth, well-constrained by a mobile seismic network, is around 5 km.

We present a preliminary analysis of the numerous collected data and observations. We will interpret them in the framework of the seismotectonic model of stable continental Europe. This seismic sequence demonstrates the difficulty to assess seismic hazard in these tectonically stable continental regions and the importance of conducting detailed specific studies of past earthquakes that occurred before the development of modern seismic networks.